

REMARKS

Claims 20 and 23 to 25 have been amended and claims 26 to 30 have been added.

Claims 20 to 30 are now active in this application..

Claims 20 to 22 and 25 were rejected under 35 U.S.C. 102(e) as being anticipated by Peters et al. (U.S. 6,521,530). The rejection is respectfully traversed.

Claim 20 requires, among other features, a layer of conductive material disposed on the top layer of the package substrate, the conductive material including contact pads and a plate layer spaced from the contact pads and having a thickness substantially equal to the thickness of the contact pads. No such structure is taught or suggested by Peters et al. either alone or in the combination as claimed.

Claim 20 further requires an electrically insulating underfill layer disposed over the plate layer and surrounding the conductive pads and filling the region between the semiconductor device and the package substrate. No such structure is taught or suggested by Peters et al. either alone or in the combination as claimed.

Claims 21, 22 and 25 depend from claim 20 and therefore define patentably over Peters et al. for at least the reasons presented above with reference to claim 20.

Claims 20 to 22 and 25 were rejected under 35 U.S.C. 102(e) as being anticipated by Figueroa et al. (U.S. 6,388,207). The rejection is respectfully traversed.

The arguments presented above with reference to the rejection on Peters et al. applies as well to this rejection and is incorporated by reference.

Claims 20, 21, and 25 were rejected under 35 U.S.C. 102(a) as being anticipated by AAPA. The rejection is respectfully traversed for the reasons set forth above with

reference to the rejection on Peters et al. The features discussed above are not found in AAPA.

Claims 23 and 24 were rejected under 35 U.S.C. 103(a) as being unpatentable over Peters et al. in view of Wu et al. and Figueroa et al. in view of Wu et al. The rejections are respectfully traversed.

Claims 23 and 24 depend from claim 20 and therefore define patentably over the applied reference for at least the reasons presented above with reference to claim 20 since Wu et al. fails to overcome the deficiencies in Peters et al. and Figueroa et al. as enumerated above.

New claims 26 to 28 depend from claim 20 and therefore define patentably over the applied references for at least the reasons presented above with reference to claim 20.

In addition, claim 26 requires that the oxide layer be a finite amount up to about 1 micron. No such feature is taught or suggested in any of the applied references.

Claim 27 further limits claim 20 by requiring that the thickness of the contact pad be substantially the same as the thickness of the remaining portion of the conductive material layer outside of the channel. No such feature is taught or suggested in any of the applied references.

Claim 28 further limits claim 23 by requiring that the oxide layer be an oxide of the conductive material. No such feature is taught or suggested in any of the applied references.

Claim 29 requires, among other features, an electrically insulating underfill layer disposed over the plate layer and surrounding said conductive pads and filling the region between said semiconductor device and said package substrate. No such feature is taught

or suggested in any of the applied references either alone or in the combination as claimed.

Claim 30 depends from claim 29 and therefore defines patentably over the applied references for at least the reasons presented above with reference to claim 29.

In addition, claim 30 further limits claim 29 by requiring that the pads be formed of a material different from the layer of substantially the same thickness as the conductive layer. No such combination is taught or suggested by the cited references.

In view of the above arguments, favorable reconsideration and allowance are respectfully requested.

Respectfully submitted,



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